

Alg. 2 Warm Up # 4-4



New team # on WU!

1. For $f(x) = \sqrt{x+4}$ and $g(x) = x^2 - 2$

find:

a) $g(f(x))$ b) $f(g(x))$ c) $f(g(3))$ d) $g(f(21))$

Homework questions:

Alg 2B Ch. 5 Rev. #2

Name _____

Team _____ Per _____

Factor completely:

1) $x^2 + 4x - 12$

$(x+6)(x-2)$

2) $4x^2 - 1$

$(2x+1)(2x-1)$

3) $5x^2 + 35x + 60$

$5(x+3)(x+4)$

4) $16x^2 - 12x$

$4x(4x-3)$

5) $3x^2 - 12$

$3(x^2 - 4)$

$3(x+2)(x-2)$

6) $8x^2 + 20x - 12$

$4(2x^2 + 5x - 3)$

$4(2x-1)(x+3)$

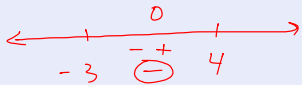
Solve. Support answers with correct process.

7) $x^2 - x - 12 \leq 0$ 8) $|3x - 1| > 2$ 9) $2|x - 6| - 10 \leq 62$

$(x - 4)(x + 3) \leq 0$

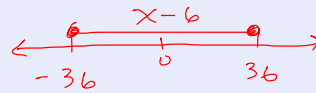
$x < -\frac{1}{3} \text{ or } x > 1$

$2|x - 6| \leq 72$



$-3 \leq x \leq 4$

$|x - 6| \leq 36$

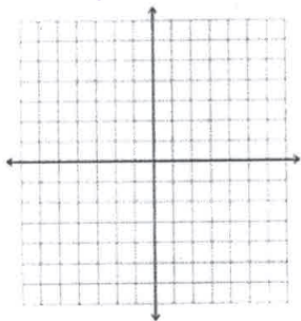


$-36 \leq x - 6 \leq 36$

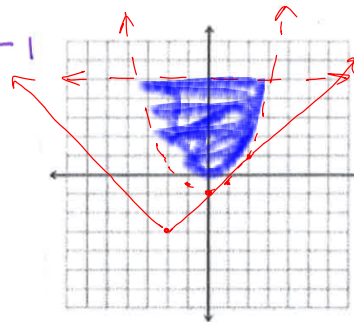
$-30 \leq x \leq 42$

Accurately graph the solution to the system.

10) $y < x^2 + 2$
 $y \leq -(x - 2)^2 + 6$



11) $y \geq |x + 2| - 3$
 $y < 5$
 $y > \frac{1}{2}x^2 - 1$



12) Describe the transformations of the parent graph to:

a) $y = 2\sqrt[3]{x-5}$

b) $y = \frac{1}{4}|x+2| - 6$

- left 2
- Vertical compression of $\frac{1}{4}$
- Down 6

Simplify the expressions

13) $\frac{6ab^{-4}}{24(ab)^{-2}}$

14) $\frac{5xy^3}{6x^{-7}} \cdot \frac{3y^{-4}}{x^2}$

15) $\frac{3x}{(2y)^{-2}} \div \frac{6x^{-7}}{10xy}$

$$\frac{a^3}{4b^2}$$

$$\frac{5x^6}{2y}$$

$$20x^9y^3$$

Change to exponent form:

16) $\log_6 36 = 2$

17) $\log_x 5 = y$

18) $\log_3 (x+5) = 14$

$$6^2 = 36$$

$$x^y = 5$$

$$3^{14} = x+5$$

Change to log form:

19) $7^x = t$

20) $5^{(x-2)} = 4y$

21) $x^{12} = (y+2)$

$$\log_7 t = x$$

$$\log_5 (4y) = (x-2)$$

$$\log_x (y+2) = 12$$

22) Find the inverse. State domain & range for both.

a) $y = \sqrt{x-2} + 1$

orig

d: $x \geq 2$

r: $y \geq 1$

inverse

d: $x \geq 2$

r: $y \leq 1$

b) $y = (x-1)^2 + 2$; $x \leq 1$

$x = (y-1)^2 + 2$
 $\pm \sqrt{x-2} = \sqrt{(y-1)^2}$

$\pm \sqrt{x-2} = y - 1$

$y = \pm \sqrt{x-2} + 1$

$(2,1)$ $\begin{matrix} +\sqrt{} \\ -\sqrt{} \end{matrix}$

$y = -\sqrt{x-2} + 1$

Classwork: $y = 2 \log_3(x+4) - 1$
 (tan)

parent equation

$y = \log_3 x$

same as $3^y = x$

x	y
1	0
3	1
9	2

Left 4	
-3	0
-1	2
5	4

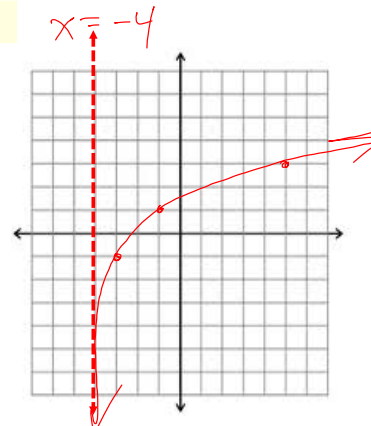
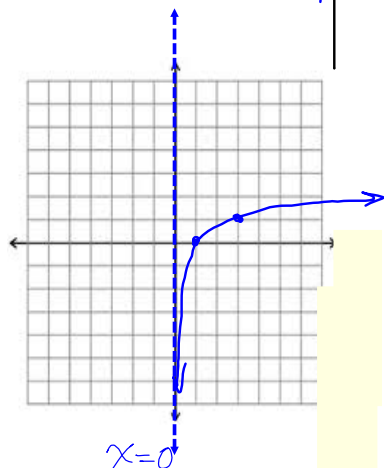
Now down 1

-3	-1
-1	1
5	3

base?

transformations:

- Left 4
- Vertical Stretch of 2
- Down 1



Check your classwork answers:

1. -5

2. 3

3. -2

4. x

5. x

6. They are inverses.

8a. $3(x + 6)(x + 2)$

8b. $(2x + 5)(2x - 5)$

8c. $5x(2x - 9)$

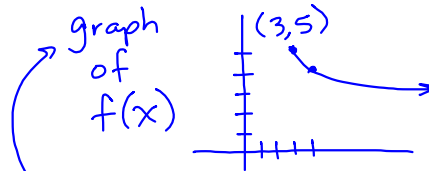
9. $x < -5$ or $x > -1$

10. $2 < x < \frac{10}{3}$

11. $-2 \leq x \leq 2$

12. $x \leq -2$ or $x \geq 8$

13. $-31 \leq x \leq 23$



15. $f(x)$: dom: $x \geq 3$
range: $y \leq 5$

Inverse: $y = (x - 5)^2 + 3$
dom: $x \leq 5$, range: $y \geq 3$

Classwork Week 4

Warm Up

Salmon (5.2.3)

Yellow (5.2.4)

White (composites and inverses)

Tan (review #1)

Chapter 6 starts Monday.
Exchange your book for Vol. 2!

HW: Green worksheet

Last Test Practice